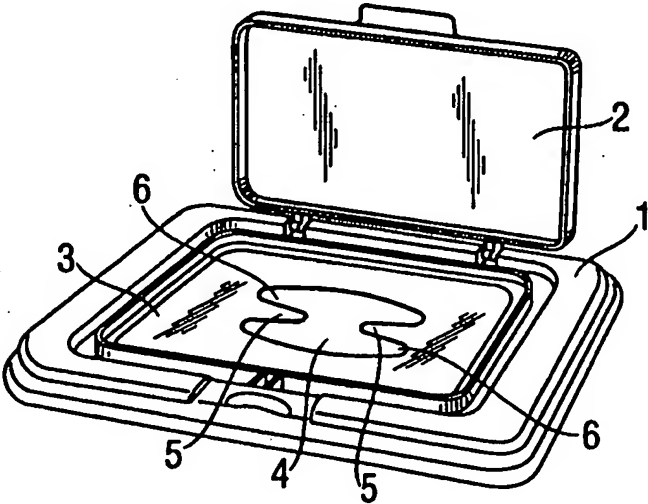




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : B65H 1/00</p>	<p>A1</p>	<p>(11) International Publication Number: WO 98/19946</p> <p>(43) International Publication Date: 14 May 1998 (14.05.98)</p>
<p>(21) International Application Number: PCT/US97/20282</p> <p>(22) International Filing Date: 10 November 1997 (10.11.97)</p> <p>(30) Priority Data: U 9602837 8 November 1996 (08.11.96) ES</p> <p>(71) Applicant (for all designated States except US): THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): PERICH, Francesc [ES/ES]; Avenida Pau Casals, 48, E-08450 Llinars de Valles (ES). BITOWFT, Bruce, Kevin [US/US]; 310 Compton Road, Wyoming, OH 45215 (US).</p> <p>(74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217 (US).</p>		<p>(81) Designated States: AU, CN, KR, US.</p> <p>Published <i>With international search report.</i></p>
<p>(54) Title: DEVICE FOR ONE BY ONE REMOVAL OF LAMINAR ARTICLES FROM INSIDE A CONTAINER</p>		
		
<p>(57) Abstract</p> <p>A device for a container in which laminar articles folded in zig-zag fashion are separately removed. The opening (4) of the device is smaller than the separate articles and has wings (5) projecting into it, forming narrow passages (6) through which part of a laminar article passes as it is removed.</p>		

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

DEVICE FOR ONE BY ONE REMOVAL OF LAMINAR ARTICLES FROM INSIDE A CONTAINER

The present application relates to a device for the one-by-one removal of laminar articles from inside a container, for example, moistened paper towels folded in zig-zag fashion.

Known in the art are containers provided with a device for the withdrawal of laminar articles, made up of an opening of a certain width to permit the one-by-one removal of the folded laminar articles which it contains, even by inserting a hand inside the container. Said opening is smaller in width than that of the folded articles, so that when the first article is pulled it does not drag the next one out with it.

One example of a container with a device of this type is that described in utility model 9600309 applied for in favour of the firm ARBORA HOLDING, S.A.

Experience has shown that it is possible to provide the device in question with features so far not supplied, in order to achieve greater security when removing the laminar articles one by one, preventing removal of more than one article at a time.

The device object of the present application has been designed in accordance with the premises outlined for the one-by-one removal of laminar articles from inside a container.

This device is of the type which has an opening on one side or cover of the container, which opening is smaller than the separate articles folded in zig-zag fashion inside the container. On the basis of this known embodiment the device is essentially characterized in that the outline of the opening presents some wings which project towards the interior of the opening combined with some inlets on the outline edge itself which form narrow passages through which part of the laminar article passes under friction, preventing the removal of more than one article at a time.

For a better understanding of all that is set out in this specification some drawings are attached which show, solely by way of example, a practical example of embodiment of the case.

In said drawings, Figure 1 is a perspective view of the device fitted onto a cover of a container; Figure 2, 3, 4 and 5 are further examples of three specific embodiments of the device in plan and larger-scale views.

The device object of the present application is fitted, in the example illustrated, onto a first cover 1 of a container, which container is not shown. The first cover has a second cover 2 articulated onto it, which second cover in its lowered position closes off the device for the removal of the articles inside the container, provided at the bottom with a depressed zone 3 of the cover 1.

The device presents the essential characteristic (Figures 2, 3 and 4) of having an opening 4, 4a, 4b, 4c whose outline presents some wings 5, 5a, 5b, 5c which project towards its interior, combined with some inlets 6, 6a, 6b, 6c formed on the outline edge itself, which form narrow passages through which part of the laminar article passes under friction during removal thereof. The combined action of the wings and the narrow passages forms an obstacle which prevents the removal of more than one laminar article at a time.

As indicated above, the specific embodiments shown in the drawings are mere examples of embodiment of devices with the characteristics of the invention, and should not be understood to be restrictive. The device can thus be applied to any type of cover or container of shapes different to those shown in Figure 1. For the same reason, the openings 4, 4a, 4b, 4c with the wings 5, 5a, 5b, 5c and inlets 6, 6a, 6b, 6c, may have different dimensions, shapes and outlines.

WHAT IS CLAIMED IS:

1. Device for the one-by-one removal of laminar articles from inside a container, of the type which has an opening on one side or cover of the container, which opening is smaller than the separate articles folded in zig-zag fashion inside the container, essentially characterized in that the outline of the opening presents some wings which project towards the interior of the opening combined with some inlets on the outline edge itself which form narrow passages through which part of the laminar article passes under friction, preventing the removal of more than one article at a time.

1 / 1

Fig. 1

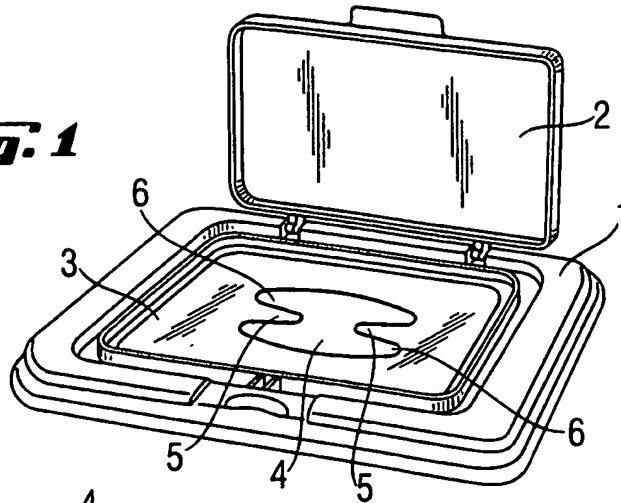


Fig. 2

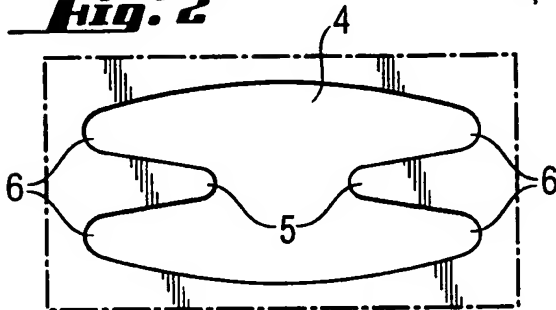


Fig. 3

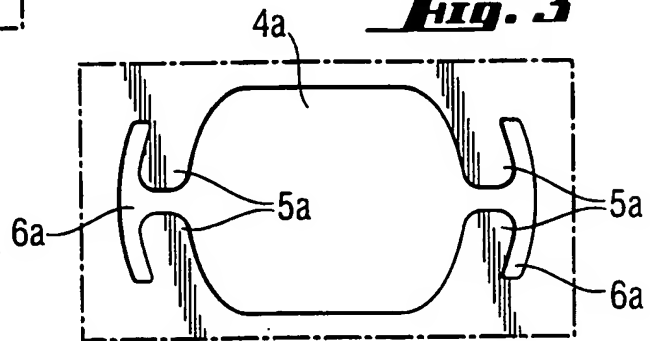


Fig. 4

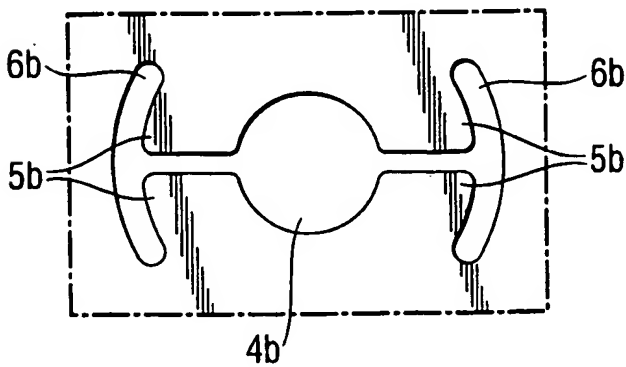
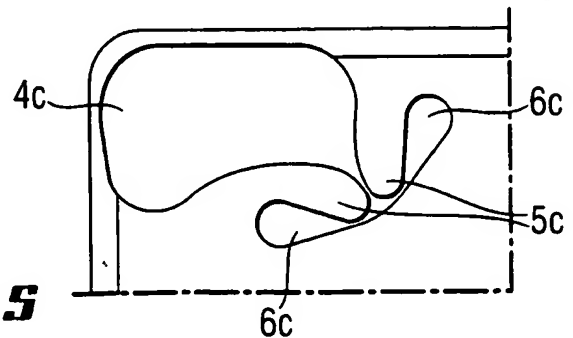


Fig. 5



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/20282

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : B65H 01/00

US CL : 221/63

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 221/63, 48, 33

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2,640,587 A (M. B. SMITH) 2 June 1953, col. 2, lines 25-40.	1
X	US 3,036,729 A (N. J. ASMAN) 29 May 1962, Figure 4.	1
X	US 3,269,593 A (M. LODEWICK et al) 30 August 1966, col. 1, lines 40-60.	1
X	GB 2,235,431 A (KIMBERLY-CLARK LIMITED) 6 March 1991, Figure 4 and page 7.	1



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
E earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

13 JANUARY 1998

Date of mailing of the international search report

23 FEB 1998

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

WILLIAM TERRELL

Telephone No. (703) 308-1113

THIS PAGE BLANK (USPTO)